APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,823	03/24/2004	Anthony D. Amiocangioli	1014-075US01/JNP-0324	4340

72689   7590   09/07/2007

SHUMAKER & SIEFFERT, P.A
1625 RADIO DRIVE , SUITE 300
WOODBURY, MN 55125

EXAMINER
RIYAMI, ABDULLA A

ART UNIT	PAPER NUMBER
2609	

MAIL DATE	DELIVERY MODE
09/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). ·
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 9-14, 18-29, 32-33, 37-40, and 43* is/are rejected.

7)☒ Claim(s) *4,17,30,31,35,36 and 41* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *4/6/2005*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Abstract

1.   The abstract of the disclosure is objected to because the phrase "are described"

in line 1 is improper language, since it is a phrase, which can be implied. Correction is

required. See MPEP § 608.01(b).

2.   Applicant is reminded of the proper language and format for an abstract of the
disclosure.

The abstract should be in narrative form and generally limited to a single
paragraph on a separate sheet within the range of 50 to 150 words. It is important that
the abstract not exceed 150 words in length since the space provided for the abstract
on the computer tape used by the printer is limited. The form and legal phraseology
often used in patent claims, such as "means" and "said," should be avoided. The
abstract should describe the disclosure sufficiently to assist readers in deciding whether
there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information
given in the title. It should avoid using phrases which can be implied, such as, "The
disclosure concerns," "The disclosure defined by this invention," "The disclosure
describes," etc.

Claim Objections

3.   Claims 2, 12, 15, and 26 are objected to because of the following informalities:

In claim 2, line 4; it is suggested to put –with-- in between "synchronized state".

In line 6, the occurrence of "a corresponding client" seems to refer to "a

corresponding client" as recited in line 4. If this is true, it is suggested to change

"a corresponding client" to --a corresponding client--. Similar problem exists in

claim 15, line 6.

In claim 12, the occurrence of "state information" seems to refer back to "state information" as recited in claim 9. If this is true, it is suggested to change "state information" to --the state information--.

In claim 26, it is suggested to change "stat information" to --state information--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1, 9-14, 18-29, 32-33, 37-40, and 42-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Rampuria et al. (US 2004/0078625 A1).

In claim 1, Rampuria et al. discloses of a method comprising: storing state data update messages (see figure 3a, block 355a) and corresponding acknowledgement messages (see figure 3a, block 355b) in a standby control unit (see figure 3a, block 220b) of a network device (see figure 2, block 200) (see paragraph 40), wherein each of the state data update messages and the respective one of the acknowledgement messages (see figure 5a) includes a corresponding state change identifier (see figure 5a, paragraph 16 and

paragraph 47--61); and upon an occurrence of a failover event, selectively

replaying state information (see paragraph 36-40) to an interface component

(see paragraph 34 and figure 2) of the network device from the standby control

unit based upon the state change identifiers of the stored state data update

messages and acknowledgement messages (see figure 5a and paragraph 47--

61).

In claim 9, Rampuria et al. discloses of a method comprising communicating a

first state data update message from a primary control unit to an interface

component and a second state data update message to a standby control unit to

update state information within the interface component (paragraph 37-39) and

the standby control unit, the first and second state data update messages having

a common unique operation identifier (ID) (paragraph 37-39);

communicating an acknowledgement message from the interface component to

the standby control unit to indicate the successful processing of the first state

data update message, the acknowledgement message having the unique

operation ID (figure 5b, block 650);

upon receipt of both the second state data update message and the

acknowledgement message, processing the second state data update message

in the standby control unit (see figure 5a and 5b and paragraph 45-62); and

upon an occurrence of a failover event, selectively replaying state information

from the standby control unit to the interface component when the second state

data update message was received without a corresponding acknowledgement

message (see paragraph 19, and 38-40).

In claim 10, Rampuria et al. discloses of a method, wherein communicating an

acknowledgement message comprises: communicating the acknowledgement

message from the interface component to the primary control unit; and

forwarding the acknowledgement message from the primary control unit to the

standby control unit (see figure 5a and 5b).

In claim 11, Rampuria et al. discloses of a method, wherein communicating an

acknowledgement message comprises communicating the acknowledgement

message from the interface component directly to the standby control unit (see

paragraph 11, (when fault occurs all communication is handled by backup

module)).

In claim 12, Rampuria et al. discloses of a method, wherein the second state

data update message contains state information for use in updating state

information maintained within the standby control unit (see paragraph 38-40,

(state information is sent to both the remote router and the backup module)).

In claim 13, Rampuria et al. discloses of a method, wherein the first state data

update message contains at least a subset of the state information contained

within the second state data update message (see paragraph 38-40, (state

information is sent to both the remote router and the backup module)).

In claim 14, Rampuria et al. discloses of a method, wherein the standby control unit stores the second state data update message and the acknowledgement message in a pending message queue (see paragraph 54).

In claim 18, Rampuria et al. discloses of a method, wherein the first state data update message, the second state data update message, and the acknowledgement message comprise a cookie data field permitting the standby process to encode additional data used to minimize the current state information required to re-synchronize state information with the client process (see figure 5b and paragraph 62).

In claim 19, Rampuria et al. discloses of a method, wherein older messages stored within the pending message queue are processed differently than newer messages stored within the pending message queue following the occurrence of the failover event to dynamically re-synchronize state information (see paragraph 54, older messages are before the failover, newer messages are after the failover when backup becomes active).

In claim 20, Rampuria et al. discloses of a method, wherein the primary control unit, standby control unit, and interface component collectively perform the functions of a network data router (figure 3b, blocks 220a and 220b).

In claim 21, Rampuria et al. discloses of a method, wherein the standby control unit maintains the state information maintained within the standby process following selected replay of state information (see paragraph 11).

In claim 22, Rampuria et al. discloses a system comprising: a primary control unit (see figure 3a, block 220a) that manages state information (see paragraph 12); a standby control unit (see figure 220b) for assuming responsibility for managing the state information upon the occurrence of a failover event (see paragraph 11); and an interface component (see paragraph 34 and figure 2); wherein the primary control unit communicates changes to state information to both the standby control unit and the interface component using a state data update message (see paragraph 38-40); and the interface component transmits an acknowledgement message to the standby control unit following the successful processing of the state data update message (see figure 5b, block 625, 630, and 650).

In claim 23, Rampuria et al. discloses a system wherein the interface component communicates the acknowledgement message to the standby control unit via the primary control unit (see paragraph 62 and 38-42 figure 5b 650).

In claim 24, Rampuria et al. discloses a system wherein the interface component communicates the acknowledgement message from the interface component directly to the standby control unit (see figure 3b and paragraph 40 (backup becomes active)).

In claim 25, Rampuria et al. discloses a system wherein the state data update message includes a unique operation ID to permit the standby control unit to match the state data update message with a corresponding acknowledgement message (see figure 5b).

In claim 26, Rampuria et al. discloses a system wherein the standby control unit updates state information in the standby control unit using the state data update message following the receipt of a corresponding acknowledgement message (see figure 5b, blocks 625, 630, 650, 665, and 670).

In claim 27, Rampuria et al. discloses a system wherein the standby control unit stores the second state data update message and the acknowledgement message within a pending message queue (see paragraph 54).

In claim 28, Rampuria et al. discloses a system wherein the standby control unit assumes responsibility for maintenance of current state information following the failover event (see paragraphs 11, 40 and figure 3b).

In claim 29, Rampuria et al. discloses a system wherein the standby control unit identifies current state information within the standby process not synchronized with state information in the interface component following the failover event using the state data update message and the acknowledgement message (see regenerated, paragraph 40 and paragraph 13-15).

In claim 32, Rampuria et al. discloses a system wherein the state update message further contain a cookie data field permitting the standby process to encode additional data used to minimize the state information required to resynchronize the standby control unit and the interface component (see figure 5b and paragraph 62).

In claim 33, Rampuria et al. discloses a system comprising: means for communicating a first state data update message (see paragraph 12) from a

primary control unit (see figure 3a, block 220a) to an interface component (see paragraph 34 and figure 2) and a second state data update message (see paragraph 11) to a standby control unit (see figure 3a, block 220b), the first and second state data update messages having a unique operation ID (paragraph 37-39); means for communicating an acknowledgement message from the interface component to the standby control unit to indicate the successful processing of the first state data update message, the acknowledgement message having the unique operation ID (see figure 5b, block 625, 630, and 650); means for processing the second state data update message upon receipt of both the second state data update message and the acknowledgement message having identical unique operation ID (see paragraph 40 and figure 5b, block 625, 630, and 650); and means for selectively replaying state information to the interface component when the second state data update message was received (see paragraph 40) without a corresponding acknowledgement message upon an occurrence of a failover event (see paragraph 43 and figures 5a and 5b) wherein the standby control unit stores the second state data update message and the acknowledgement message in a pending message queue (see queue and buffer, paragraphs 54 and 44-45).

In claim 37, Rampuria et al. discloses a computer-readable medium comprising encoded instructions for causing a standby control unit (see paragraph 43) to: receive an acknowledgement message received from an interface component forwarded by a primary control unit to the standby control unit to indicate the

successful processing of a first state data update message received by the

interface component from the primary control unit, the first state data update

message and the acknowledgement message having the common unique

operation ID (see paragraphs 44-62 and figures 5a and 5b);

receive a second state data update message to the standby control unit (see

paragraphs 38-40), the second state data update message having a unique

operation ID; process the second state data update message within the standby

control unit to update current state information upon receipt of both the second

state data update message and the acknowledgement message (see paragraphs

44-62 and figures 5a and 5b); and selectively replay the current state information

data to the interface component when the second state data update message

was received (see paragraph 40) without a corresponding acknowledgement

message upon an occurrence of a failover event (see paragraph 43 and figures

5a and 5b).

In claim 38, Rampuria et al. discloses the computer-readable medium wherein

the second state data update message and the acknowledgement message are

stored in a pending message queue (see paragraph 54).

In claim 39, Rampuria et al. discloses the computer-readable medium wherein

the computer- readable medium comprising additional encoded instructions for

causing a standby control unit (see paragraph 43) to: identify a standby process

containing current state information not synchronized with state information in the

interface component using the second state data update message (see

paragraph 13-15) and the corresponding acknowledgement message stored within a pending message queue; and transmit the current state information maintained by the standby process to a corresponding client process within the interface component to re-synchronized the state information (see paragraph 19 and 46, and figure 5a).

In claim 40, Rampuria et al. discloses the computer-readable medium wherein the second state data update message and the acknowledgement message are transmitted using a unique virtual communication channel between the standby process and the corresponding client process (see figure 3a and 3b (channel between backup and router)).

In claim 42, Rampuria et al. discloses the computer-readable medium wherein the first state data update message, the second state data update message, and the acknowledgement message comprise a cookie data field (see figure 5b and paragraph 62) permitting the primary control unit to encode additional data used to reduce the current state information required to re-synchronize state information between the standby control unit and the interface component following the failover event (see paragraph 62).

In claim 43, Rampuria et al. discloses the computer-readable medium wherein the plurality of standby control unit and the interface component collectively perform functions of a network data router (figure 3b, block 220b) when the standby control unit assumes responsibility for maintaining the current state information following the selected replay of state information (see paragraph 11).

Claim Rejections - 35 USC § 103

6.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 2-3, 5-8,15-16, and 34 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Rampuria et al. (US 2004/0078625 A1) in view of Jones et al. (US

2002/0169794 A1).

In claim 2, Rampuria et al. discloses of a method wherein selectively replaying

state information (see paragraph 36-40) comprises: identifying a standby process

within the standby control unit within the interface component (see paragraph 13-

15); and transmitting current state information maintained by the standby process

to a corresponding client process within the interface component to re-synchronize the state information of the client process and the state information of the standby process (see paragraph 19, and 46 and figure 5a).

In claim 3, Rampuria et al. discloses of a method wherein the state data update messages, the acknowledgement messages, and the current state information transmitted by the standby process are transmitted using a unique virtual communication channel between the standby process and the corresponding client process (see figure 3a and 3b (channel between backup and router)).

In claim 5, Rampuria et al. discloses of a method wherein each of the state data update messages and each of the acknowledgement messages comprise a cookie data field (see figure 5b and paragraph 62) permitting the standby process to encode additional data used to reduce the current state information required to re-synchronize the state information of the client process (see paragraph 62).

In claim 6, Rampuria et al. discloses of a method wherein the standby control unit maintains the current state information associated with the standby process following selected replay of state information (see figure 3b, block 220b and paragraph 11).

In claim 7, Rampuria et al. discloses of a method wherein the standby control unit comprises only one standby process (see paragraph 11).

In claim 8, Rampuria et al. discloses of a method wherein the standby control unit comprises at least one standby process (see paragraph 43).

For claim 2, Rampuria et al. does not expressly disclose that the current state information is not synchronized with state information of a corresponding client process.

For claim 2, Jones et al. discloses the current state information is not synchronized with state information of a corresponding client process (see paragraph 43, lines 6-14 and figure 3).

For claim 2, Rampuria et al. and Jones et al. are analogous art because they are from the same field of endeavor of redundancy systems and methods in communications systems.

For claim 2, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jones et al.'s method that current state information is not synchronized with state information of a corresponding client process (see paragraph 43, lines 6-14 and figure 3) in Rampuria et al.'s standby process (see paragraph 19, and 46 and figure 5a).

The motivation for claim 2, to combine would have been to provide a system and method for fault tolerant data communication, which allow a backup process (standby unit) to continue communicating with a remote process (router) over a network connection that was previously established by a primary process (active unit).

In claim 15, Rampuria et al. discloses of a method wherein selectively replaying state information (see paragraph 36-40) comprises: identifying a standby process within the standby control unit within the interface component (see paragraph 13-

15); and transmitting current state information maintained by the standby process to a corresponding client process within the interface component to re-synchronize the state information of the client process and the state information of the standby process (see paragraph 19, and 46 and figure 5a).

In claim 16, Rampuria et al. discloses of a method wherein the state data update messages, the acknowledgement messages, and the current state information transmitted by the standby process are transmitted using a unique virtual communication channel between the standby process and the corresponding client process (see figure 3a and 3b (channel between backup and router)).

For claim 15, Rampuria et al. does not expressly disclose that the current state information is not synchronized with state information of a corresponding client process.

For claim 15, Jones et al. discloses the current state information is not synchronized with state information of a corresponding client process (see paragraph 43, lines 6-14 and figure 3).

For claim 15, Rampuria et al. and Jones et al. are analogous art because they are from the same field of endeavor of redundancy systems and methods in communications systems.

For claim 15, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jones et al.'s method that current state information is not synchronized with state information of a corresponding client

process (see paragraph 43, lines 6-14 and figure 3) in Rampuria et al.'s standby

process (see paragraph 19, and 46 and figure 5a).

The motivation for claim 15, to combine would have been to provide a system

and method for fault tolerant data communication, which allow a backup process

(standby unit) to continue communicating with a remote process (router) over a

network connection that was previously established by a primary process (active

unit).

In claim 34, Rampuria et al. discloses of a system wherein the means for

selectively replaying state information data (see paragraph 36-40) comprises:

means for identifying a standby process within the standby control unit within the

interface component (see paragraph 13-15) using the state data update message

stored within the pending message queue (see paragraph 54); and means for

transmitting current state information data from by the standby process to a

corresponding client process within the interface component to re-synchronize

the state information in the interface component (see paragraph 19, and 46 and

figure 5a).

Rampuria et al. does not expressly disclose that the current state information is

not synchronized with state information of a corresponding client process and the

means for informing the standby process of the out-of-sync condition.

Jones et al. discloses the current state information is not synchronized with state

information of a corresponding client process (see paragraph 43, lines 6-14 and

figure 3) and the means for informing the standby process of the out-of-sync

condition (see paragraph 43, lines 6-14 and figure 3).

Rampuria et al. and Jones et al. are analogous art because they are from the

same field of endeavor of redundancy systems and methods in communications

systems.

At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to use Jones et al.'s method that current state information is not

synchronized with state information of a corresponding client process (see

paragraph 43, lines 6-14 and figure 3) and means for informing the standby

process of the out-of-sync condition (see paragraph 43, lines 6-14 and figure 3)

in Rampuria et al.'s standby process (see paragraph 19, and 46 and figure 5a).

The motivation to combine would have been to provide a system and method for

fault tolerant data communication, which allow a backup process (standby unit) to

continue communicating with a remote process (router) over a network

connection that was previously established by a primary process (active unit).

Allowable Subject Matter

9.   Claims 4,17, 30-31, 35-36, and 41 are objected to as being dependent upon a

rejected base claim, but would be allowable if rewritten in independent form including all

of the limitations of the base claim and any intervening claims.

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
A	US-2002/0067704 A1	06-2002	Ton, Bobby That Dao	370/329
B	US-2006/0092940 A1	05-2006	Ansari et al.	370/392
C	US-2003/0046604 A1	03-2003	Lau et al.	714/11
D	US-7,234,001 B2	06-2007	Simpson et al.	709/239
E	US-2004/0083403 A1	04-2004	Khosravi, Hormuzd M.	714/013
F	US-2004/0078619 A1	04-2004	Vasavada, Nishit	714/004
G	US-2005/0021844 A1	01-2005	Puon et al.	709/238
H	US-2005/0060427 A1	03-2005	Phillips et al.	709/238
I	US-2005/0193229 A1	09-2005	Garg et al.	714/004
J	US-6,999,411 B1	02-2006	Brewer et al.	370/220

All of the above are cited to show a method and system using a standby unit in a router.

11.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Abdullah Riyami whose telephone number is (571) 270-

3119. The examiner can normally be reached on Monday through Thursday 8am-5pm

EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Dang Ton can be reached on (571) 272-3171. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AR

DANG T. TON
SUPERVISORY PATENT EXAMINER